

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : February 14, 2002  
Munehiro MOROKUMA et al. :  
Serial No.: N/A :  
Filed: Herewith :  
For: SEPARATOR FOR SOLID ELECTROLYTE:  
CONDENSER AND SOLID ELECTROLYTE:  
CONDENSER USING THE SAME :  
:

PRELIMINARY AMENDMENT

Honorable Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

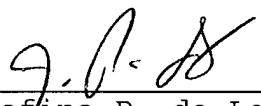
Dear Sir:

Applicants have amended the above-identified application as follows:

IN THE CLAIMS:

Applicants have amended the claims to remove multiple dependencies and to reformat the claims. Applicants have also added new claims. A marked-up version of the claims showing the changes made is attached herewith.

Respectfully submitted,

  
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Marked-up version of the claims showing the changes made.

~~What is claimed is:~~ we claim:

1. (Amended) A separator for a solid electrolyte condenser which comprises an anode foil, a cathode foil, said separator between said anode foil and said cathode foil, and said solid electrolyte provided between said anode foil and said cathode foil, comprising wherein:

~~said separator is~~ a nonwoven fabric containing which contains polyester resin or its derivative; and

a diameter of fiber of said nonwoven fabric is 0.01 to 3 dtex.

2. The separator according to claim 1, wherein said nonwoven fabric contains said polyester resin of polyethyleneterephthalate family containing carboxyalkoxybenzenesulfonic acid and its derivatives as a copolymerization ingredient.

3. The separator according to claim 2, wherein said carboxyalkoxybenzenesulfonic and its derivatives are 3,5-dicarboxymethoxybenzenesulfonic acid and its derivatives.

4. The separator according to claim 1, wherein said nonwoven fabric contains said polyester resin of polyethyleneterephthalate family containing alkylglycol and its derivatives as a copolymerization ingredient.

5. The separator according to claim 4, wherein said alkylglycol and its derivatives are diethyleneglycol and its derivatives.

6. (Amended) The separator according to ~~one of claim 2, 3, 4, or 5~~ claim 1, wherein said nonwoven fabric contains:

~~said~~ polyester resin of polyethyleneterephthalate family containing carboxyalkoxybenzenesulfonic acid and its

derivatives as a copolymerization ingredient; and  
said polyester resin of polythieleneterephthalate family  
containing alkylglycol and its derivatives as a  
copolymerization ingredient.

7. The separator according to claim 6, wherein a  
concentration of said polyester resin of polyethylenephthalate  
family containing carboxyalkoxybenzenesulfonic acid and its  
derivatives as a copolymerization ingredient is greater than  
or equal to 50 weight %.

8. (Amended) The separator according to ~~one of claim 1,~~  
~~2, 3, 4, 5, 6, or 7~~ claim 1, wherein:

a thickness of said separator is in a range of 20 to 100  
 $\mu\text{m}$ ; and

a density of said separator is in a range of 0.30 to 0.70  
 $\text{g/cm}^3$ .

9. (Amended) A solid electrolyte condenser which  
~~comprises~~, comprising:

an anode foil;

a cathode foil;

a separator between said anode foil and said cathode  
foil;

and solid electrolyte between said anode foil and said  
cathode foil, ~~wherein~~;

a surface of said anode foil is etched and insulating  
oxide film is formed on said surface;

a surface of said cathode foil is at least etched;

~~said separator according to one of claim 1, 2, 3, 4, 5,~~  
~~6, 7, 8 is sandwitched~~ sandwiched between said anode foil and  
said cathode foil and is rolled together with said anode foil

and said cathode foil to form a condenser element; and  
said solid electrolyte is provided between said anode  
foil and said cathode foil.

10. (Amended) The solid electrolyte condenser according  
to claim 9, wherein said solid electrolyte is a conductive  
polymer containing at least one material selected ~~from~~ among  
tetracyanoquinodimethane complex salt and its derivatives,  
polypyrrole and its derivatives, polyaniline and its  
derivatives, polythiophene and its derivatives,  
polyethylenedioxathiophene and its derivatives,  
polyethylenedioxyphenethiophenopolystyrenesulfonate and its  
derivatives.

11. (Amended) The solid electrolyte condenser according  
to claim 10, wherein said conductive polymer contains at least  
one binder ingredient selected ~~from~~ among polyvinylalcohol,  
polyvinylacetate, polycarbonate, polyacrylate,  
polymethacrylate, polystyrene, polyurethane,  
polyacrylonitrile, polybutadiene, polyisoprene, polyether, a  
plurality of polyesters, polyamide, ~~polyimide~~, butylal resin,  
silicone resin, malamine resin, alkyd resin, cellulose,  
nitrocellulose, a plurality of epoxy resins, and all of their  
derivatives.

12. (Amended) The solid electrolyte condenser according  
to claim 11, wherein said plurality of polyesters are selected  
~~from~~ among polyethyleneterephthalate, carbonyl modified  
polyethyleneterephthalate, sulfonic acid modified  
polyethyleneterephthalate, polybutyleneterephthalate, carbonyl  
modified polyethyleneterephthalate, sulfonic acid modified  
polybutyleneterephthalate.

13. (Amended) The solid electrolyte condenser according to claim 11, wherein said plurality of epoxy resins are selected [from] among bisphenol A type epoxy, bisphenol F type epoxy, alicyclicepoxy, nitrile rubber modified epoxy.

14. (New) The solid electrolyte condenser according to claim 9, wherein:

    said separator is a nonwoven fabric containing polyester resin or its derivative; and

    a diameter of fiber of said nonwoven fabric is 0.01 to 3 dtex.

15. (New) The solid electrolyte condenser according to claim 9, wherein said nonwoven fabric contains said polyester resin of polyethyleneterephthalate family containing carboxyalkoxybenzenesulfonic acid and its derivatives as a copolymerization ingredient.

16. (New) The solid electrolyte condenser according to claim 15, wherein said carboxyalkoxybenzenesulfonic and its derivatives are 3,5-dicarboxymethoxybenzenesulfonic acid and its derivatives.

17. (New) The solid electrolyte condenser according to claim 9, wherein said nonwoven fabric contains said polyester resin of polyethyleneterephthalate family containing alkylglycol and its derivatives as a copolymerization ingredient.

18. (New) The solid electrolyte condenser according to claim 17, wherein said alkylglycol and its derivatives are diethyleneglycol and its derivatives.

19. (New) The solid electrolyte condenser according to claim 9, wherein said nonwoven fabric contains:

    polyester resin of polyethyleneterephthalate family

containing carboxyalkoxybenzenesulfonic acid and its derivatives as a copolymerization ingredient; and

polyester resin of polythileneterephthalate family containing alkylglycol and its derivatives as a copolymerization ingredient.

20. (New) The solid electrolyte condenser according to claim 19, wherein a concentration of said polyester resin of polyethylenephthalate family containing carboxyalkoxybenzenesulfonic acid and its derivatives as a copolymerization ingredient is greater than or equal to 50 weight %.

21. (New) The solid electrolyte condenser according to claim 9, wherein:

a thickness of said separator is in a range of 20 to 100  $\mu\text{m}$ ; and

a density of said separator is in a range of 0.30 to 0.70  $\text{g}/\text{cm}^3$ .